Small Mammals in Dry Forests

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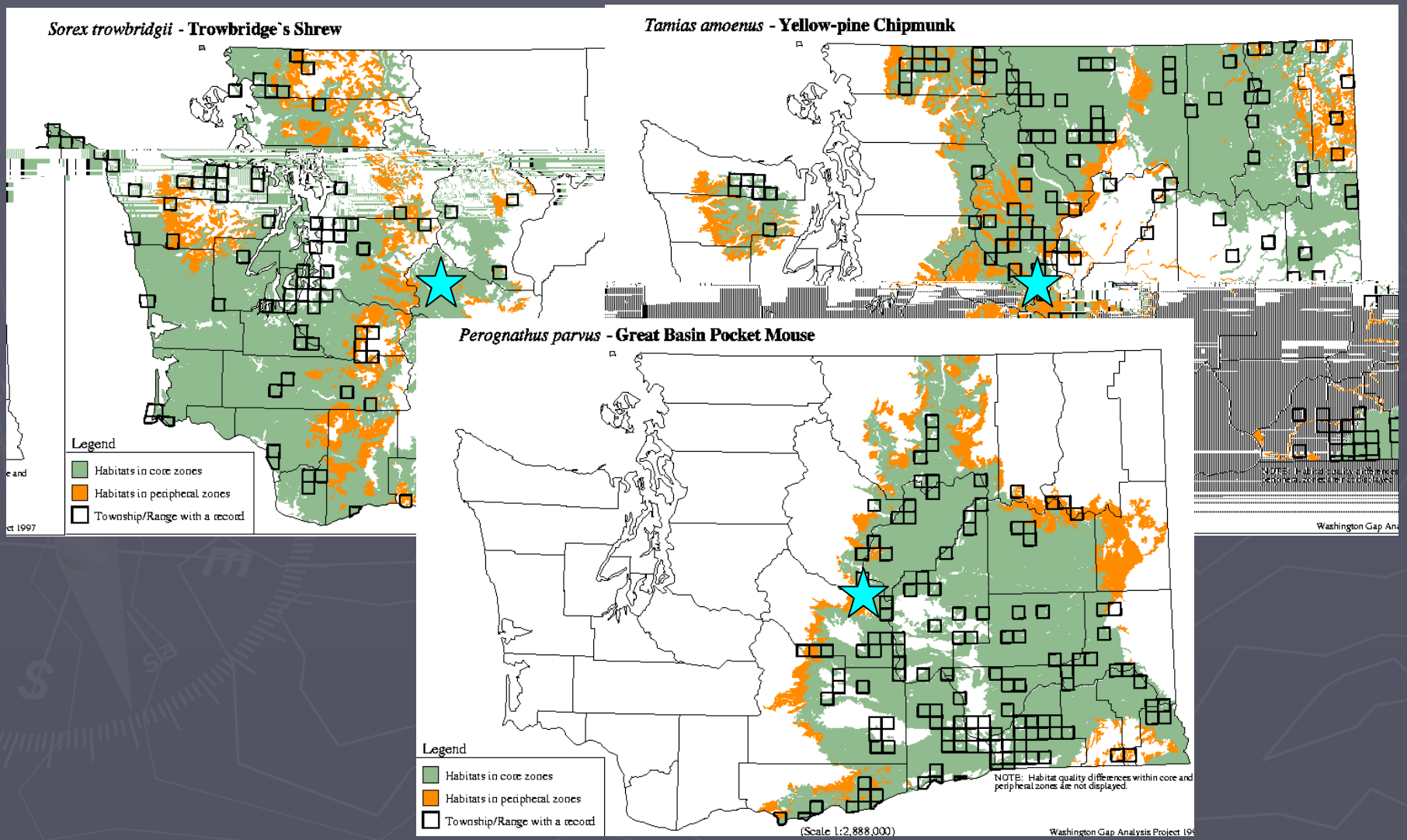
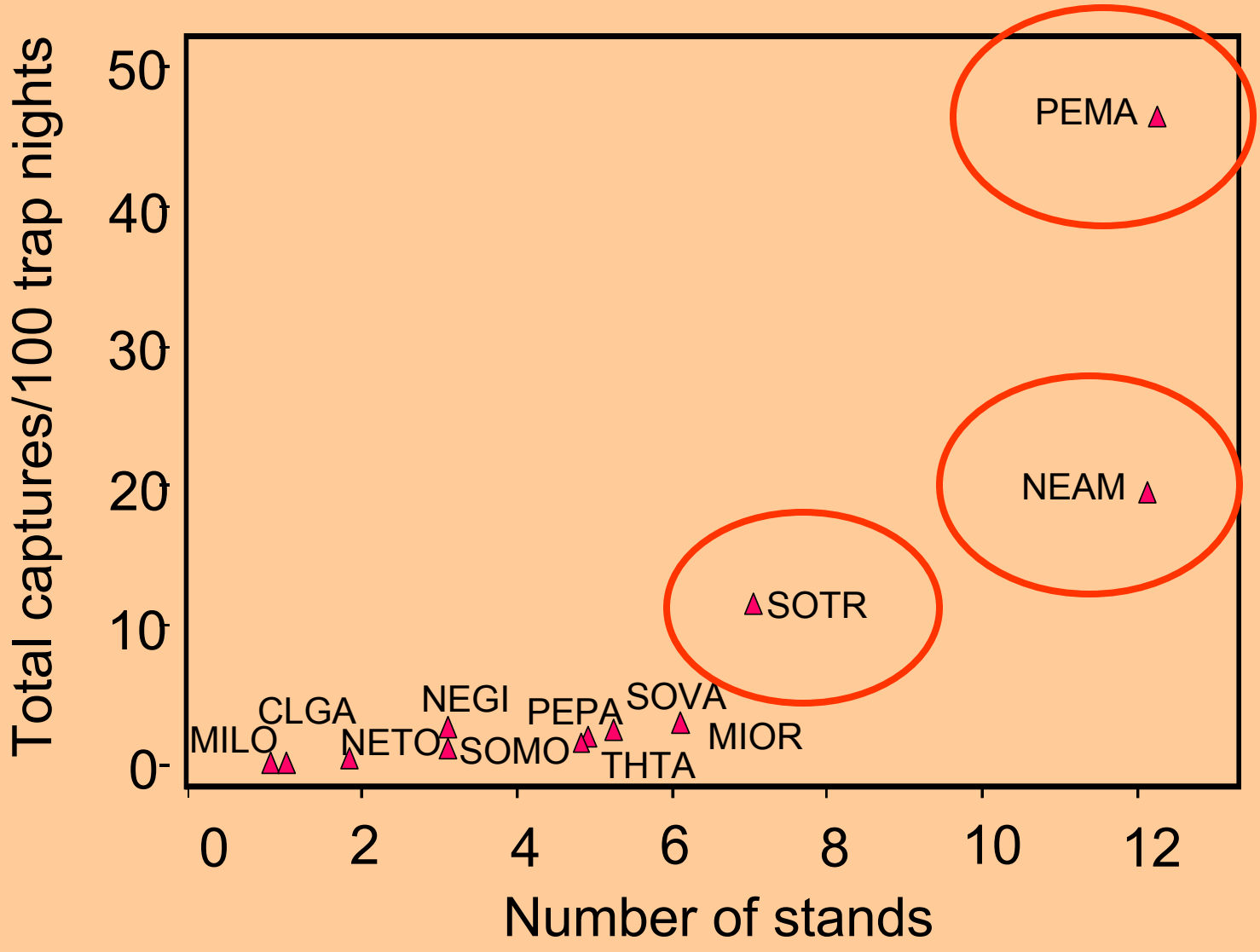
Biogeography complex....



Mice, voles, and shrews

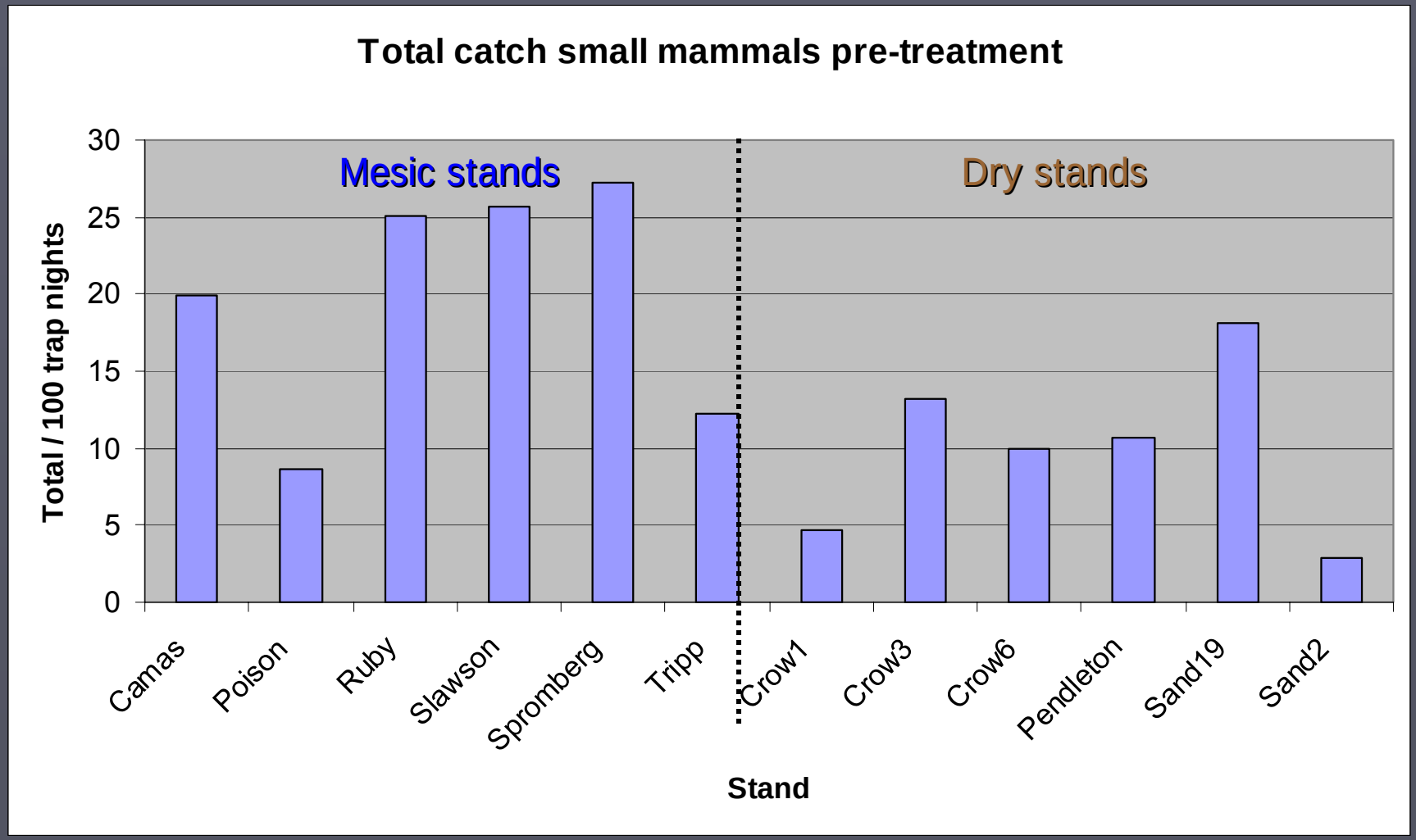
Diverse, but a few spp dominate



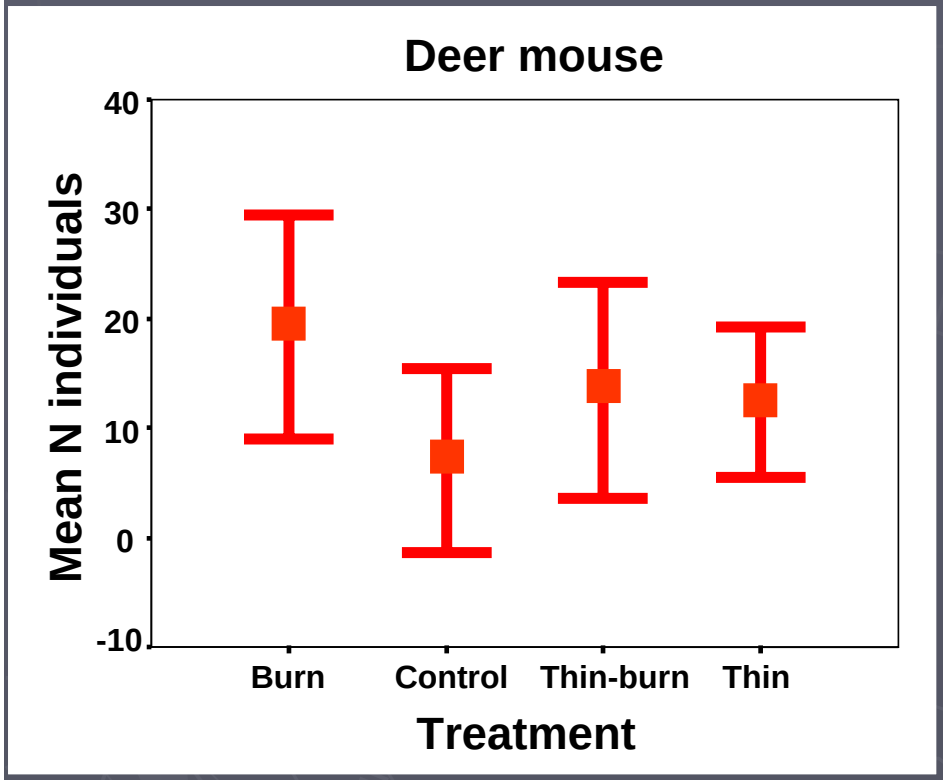
Mesic stands more diverse...

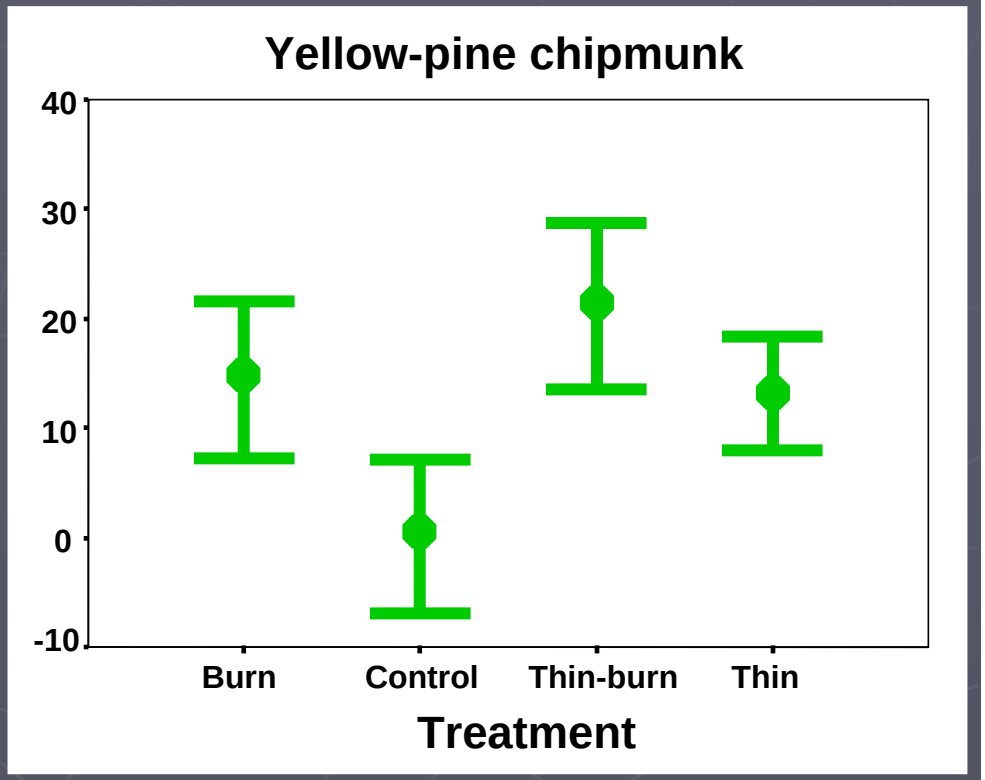
	Mesic stands	Dry stands
"Mesic-site" spp. southern red-backed vole	1	

More abundant in mesic stands, too



2 spp. dominate post-treatment...

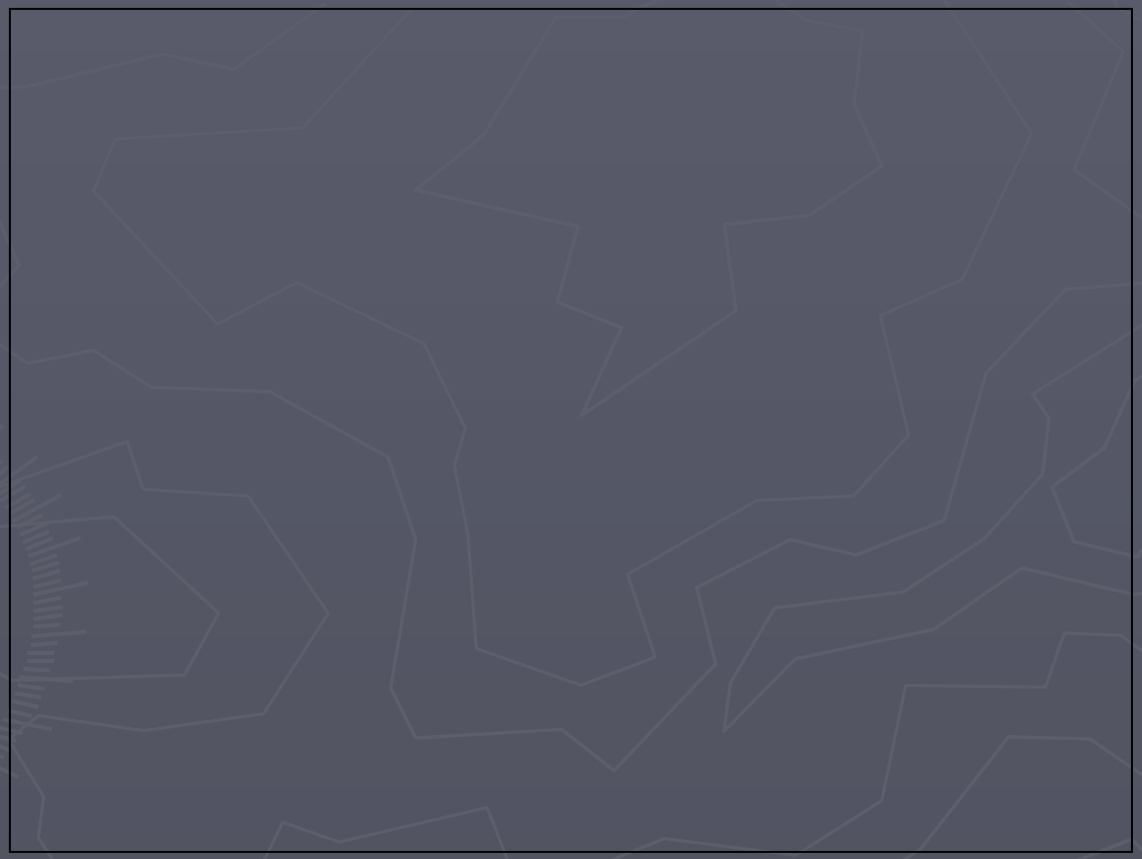




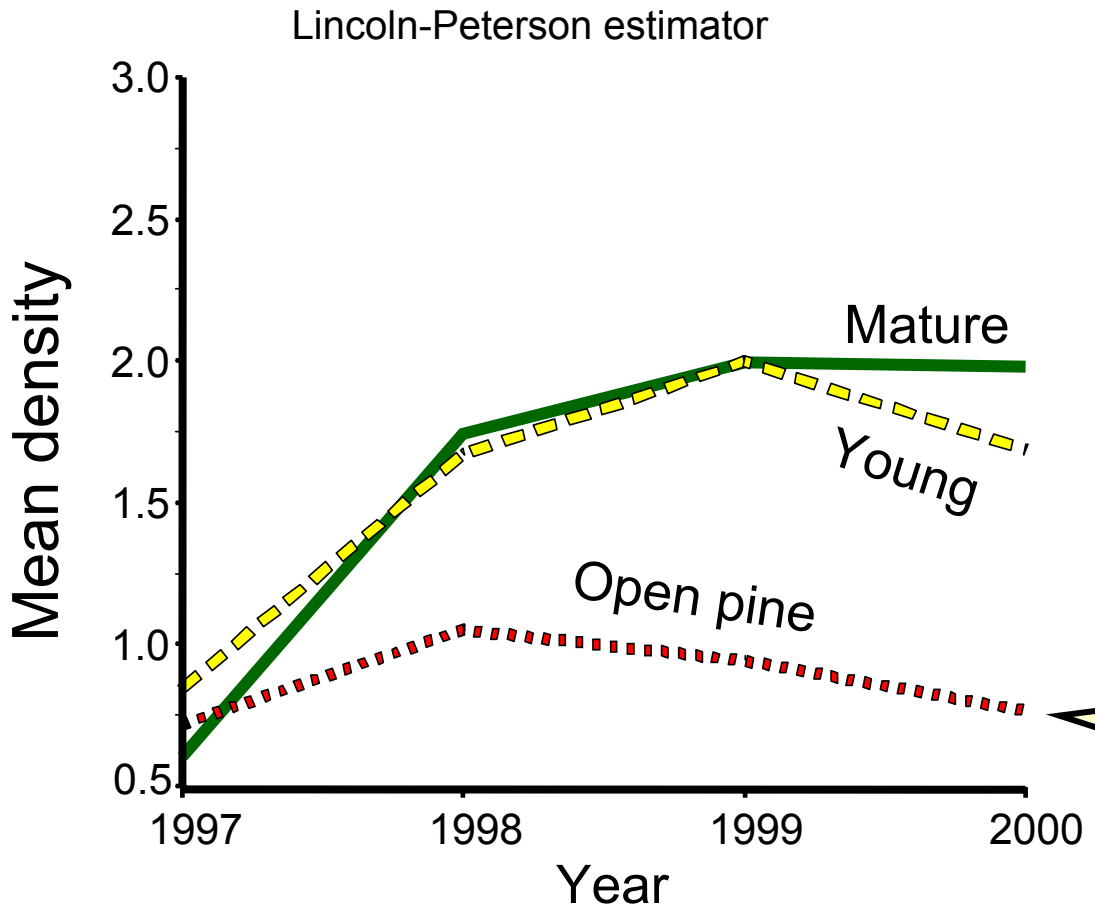
No difference considering pre-treatment abundances

Treatments > Control

Flying squirrels in the Swauk



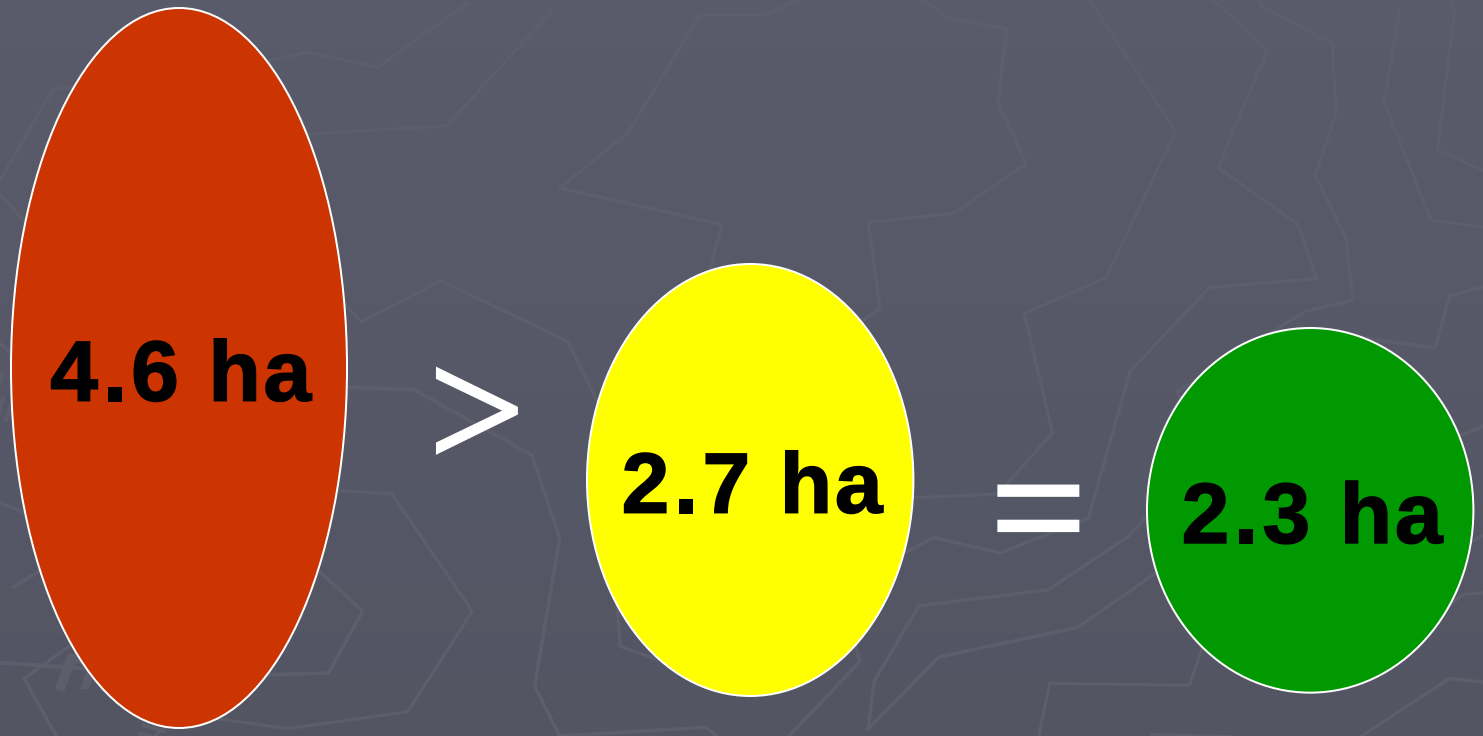
Flying squirrel density



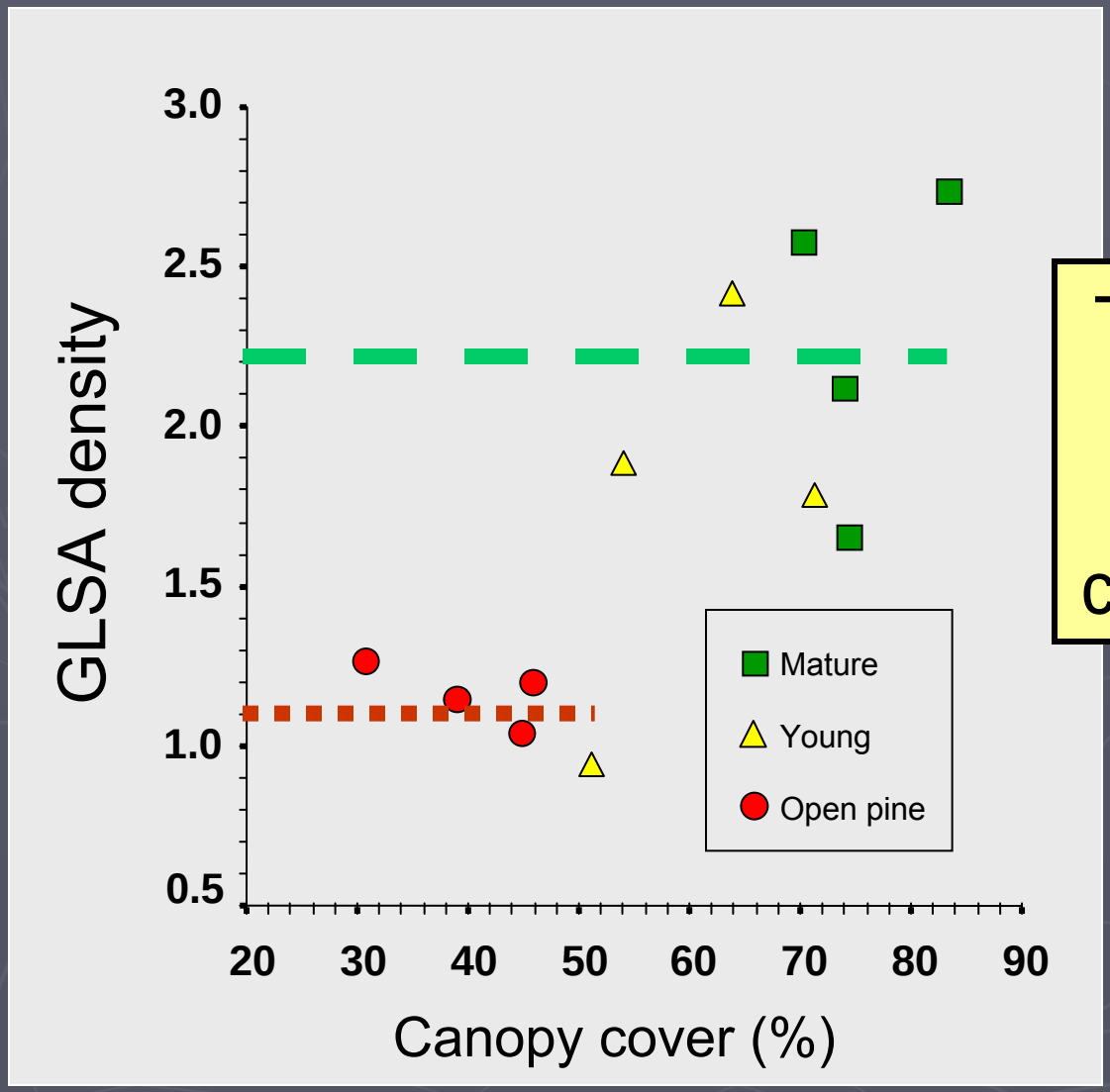
Open pine forest is *poorer* habitat than either young or mature mixed-conifer forest

.....but, these densities are as high as many west-side habitats!

Home range area as indicator of habitat quality.....

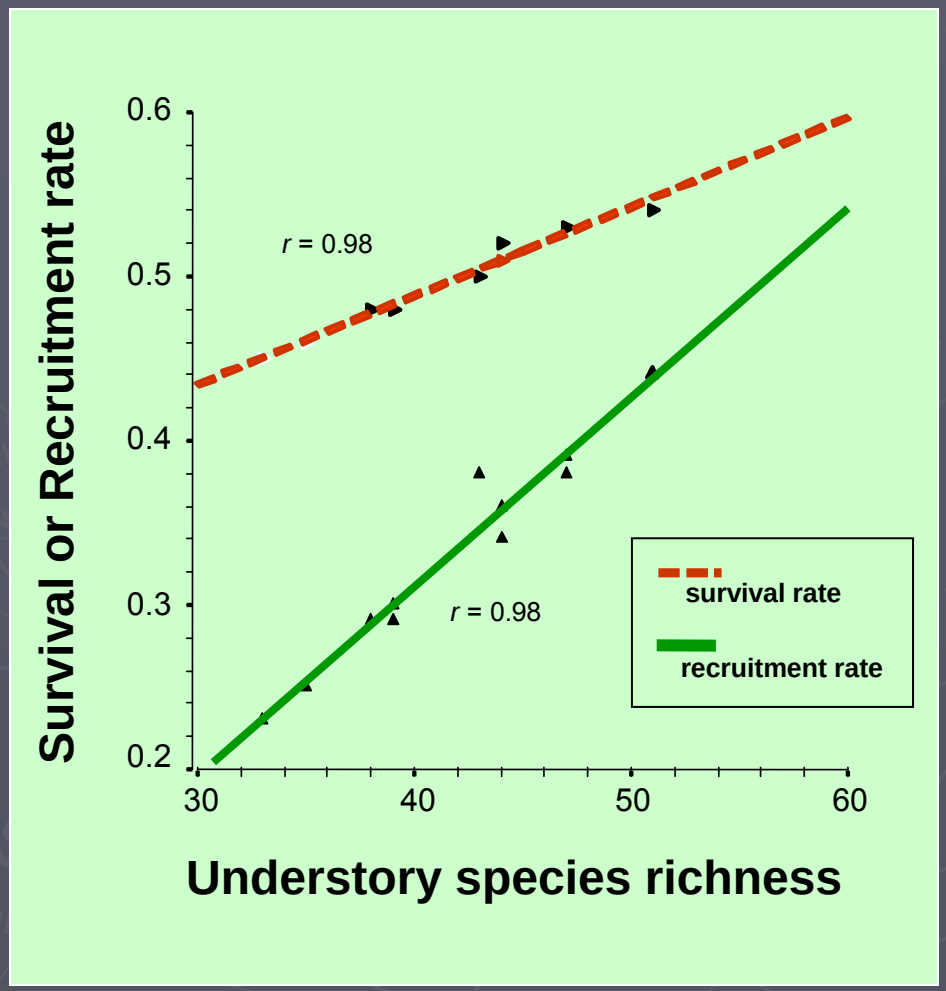


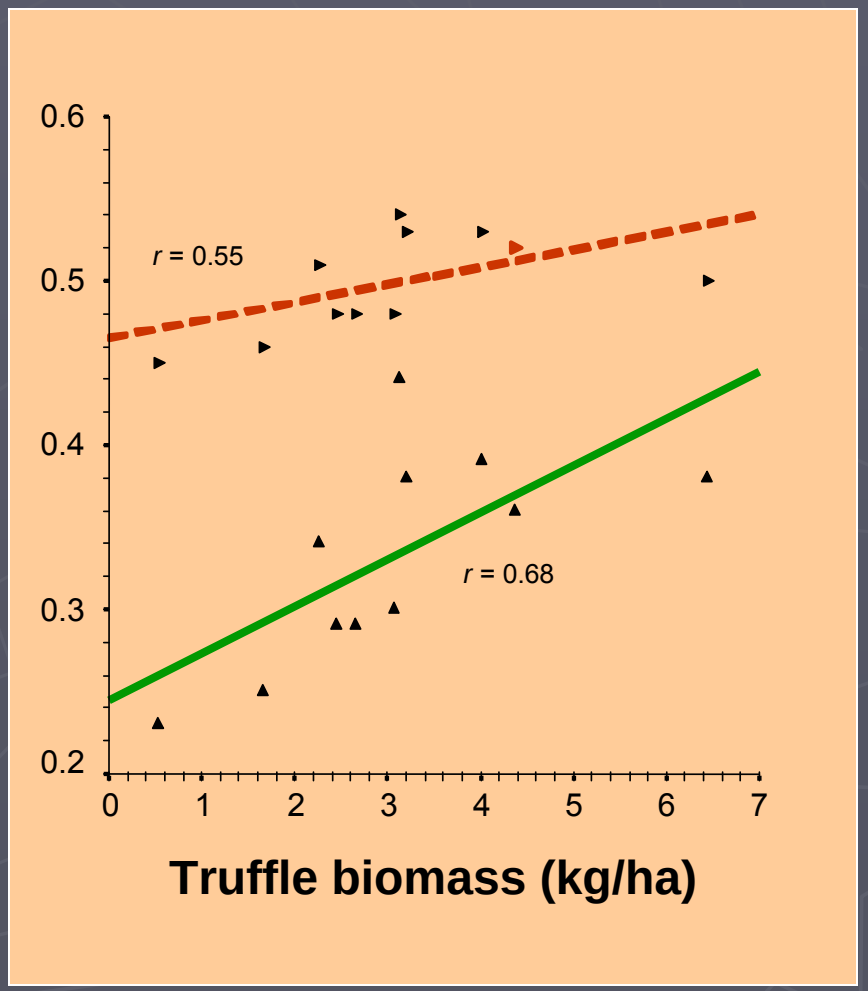
Habitat correlates of density



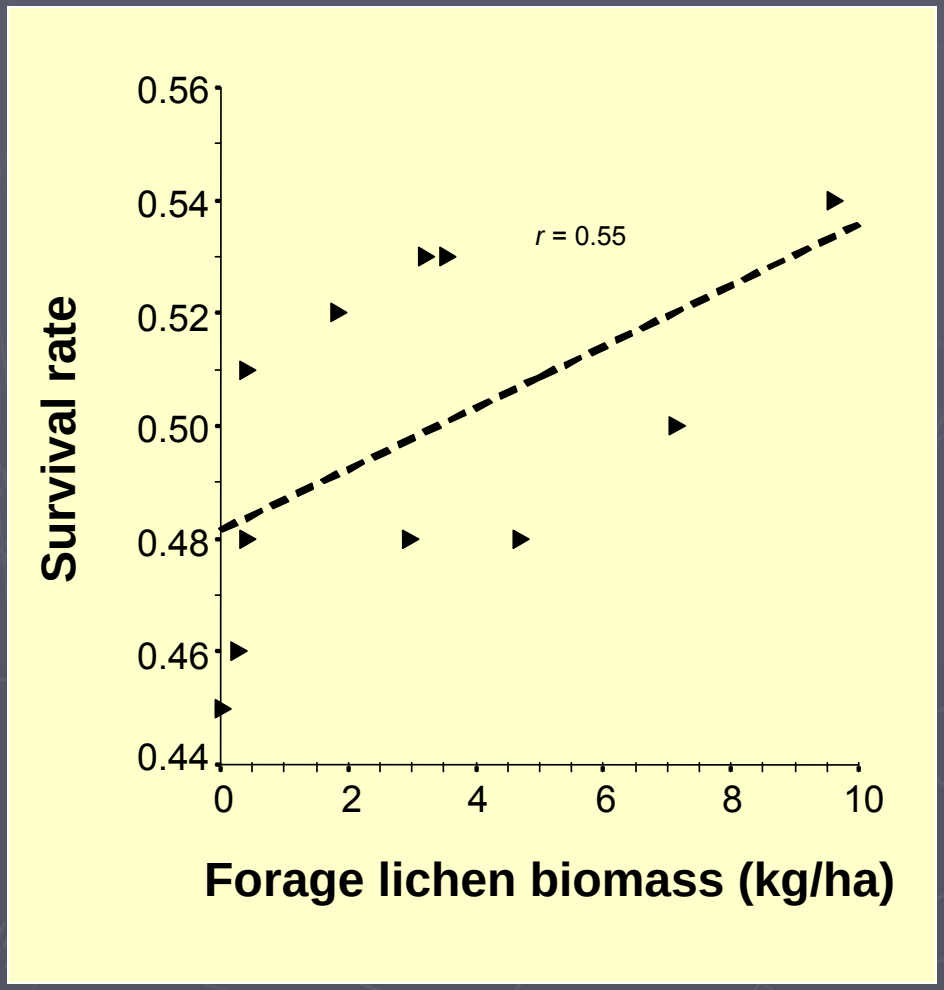
Tree canopy cover was the single best correlate of density

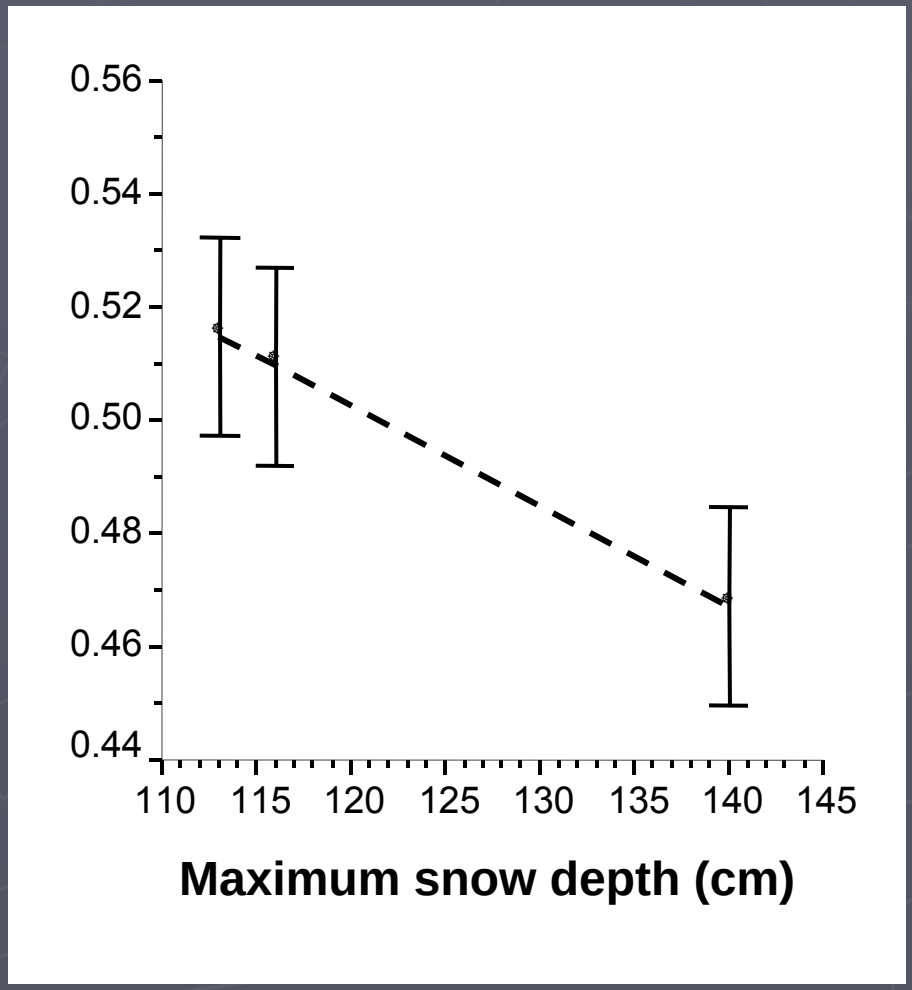
Recruitment & survival increase with understory richness & truffle biomass....



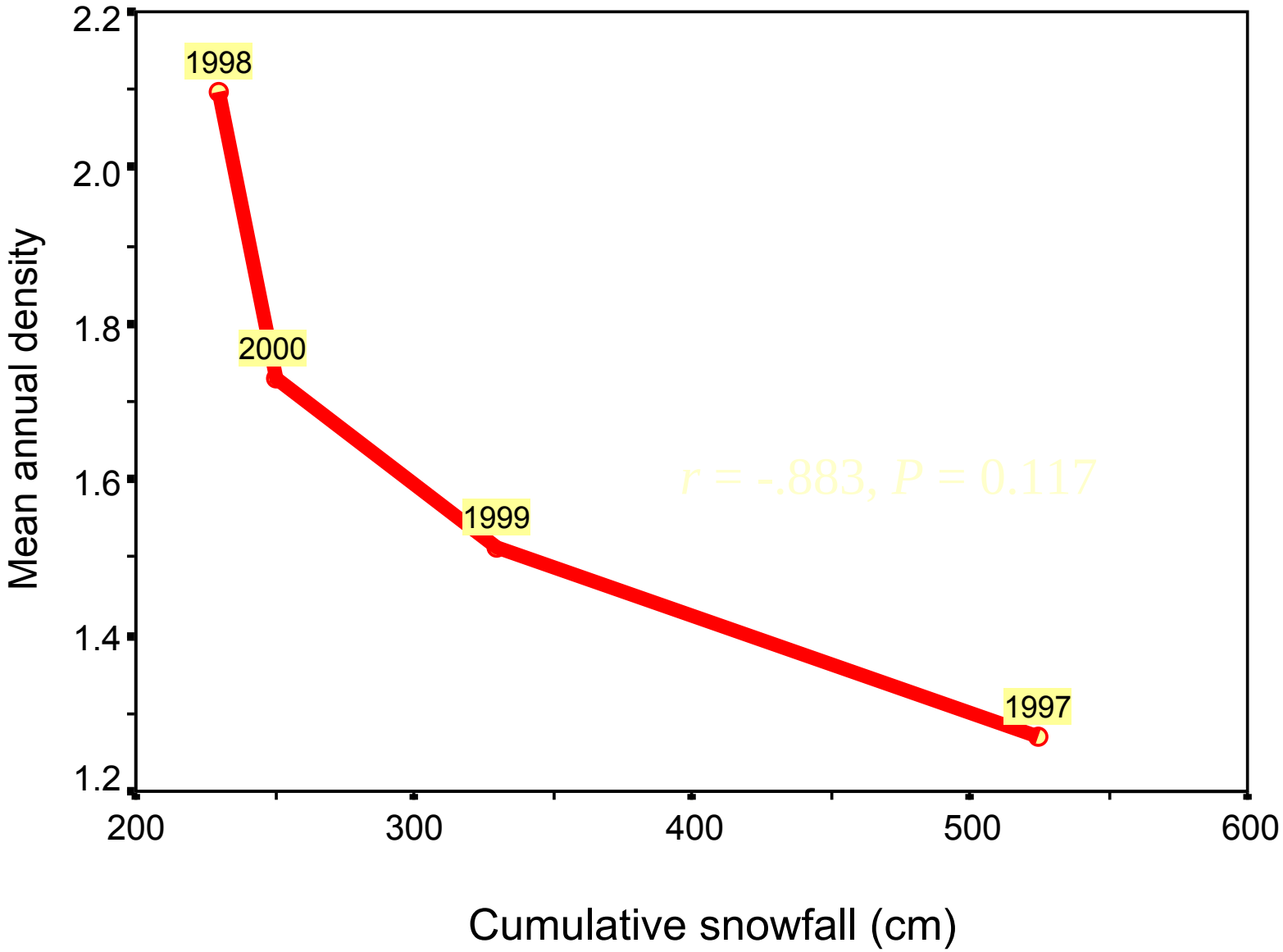


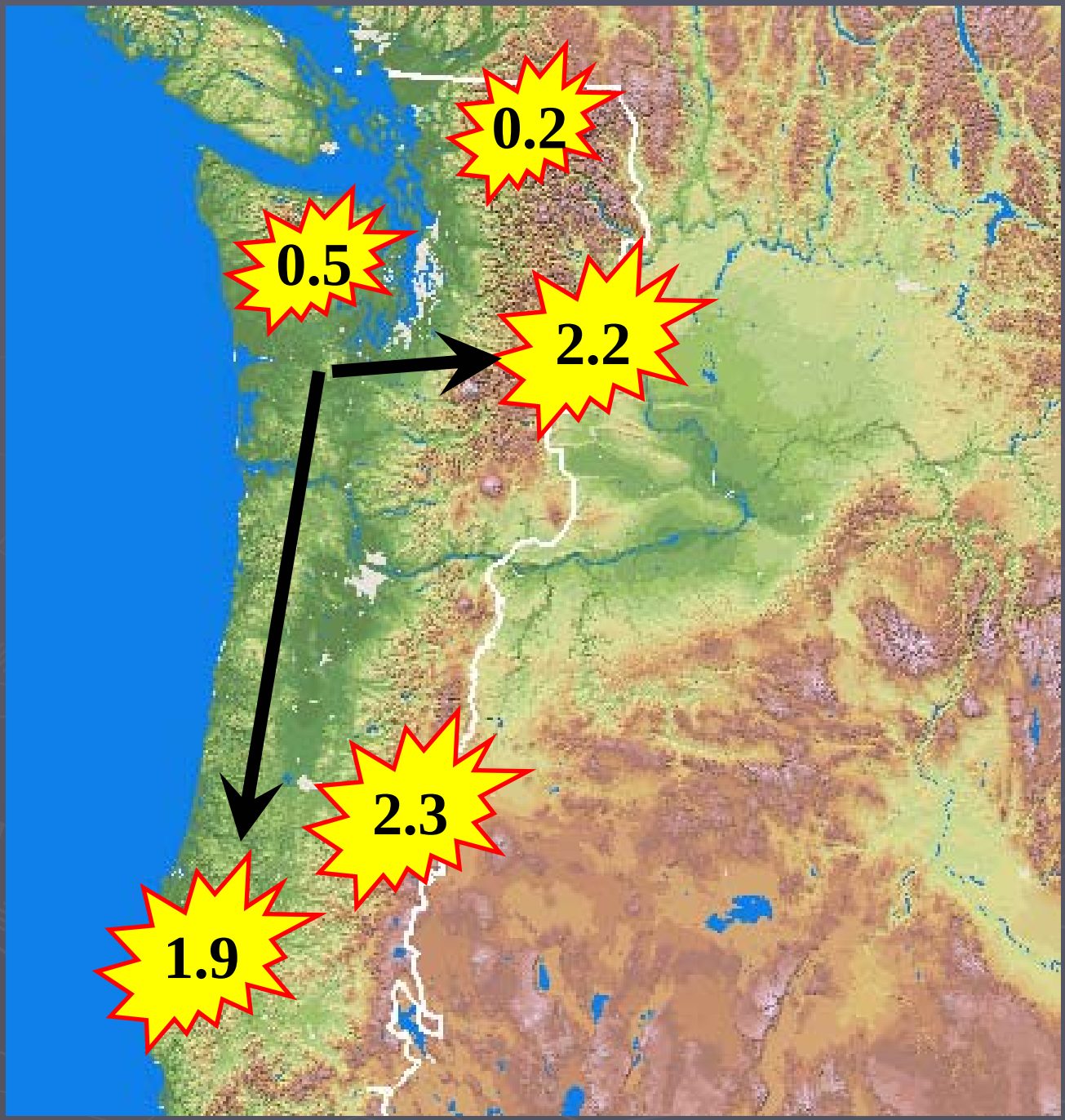
Survival increases with forage lichen biomass & declines with *snow depth*





All spp. decline with increasing snowfall




0.2
0.5
2.2
2.3
1.9

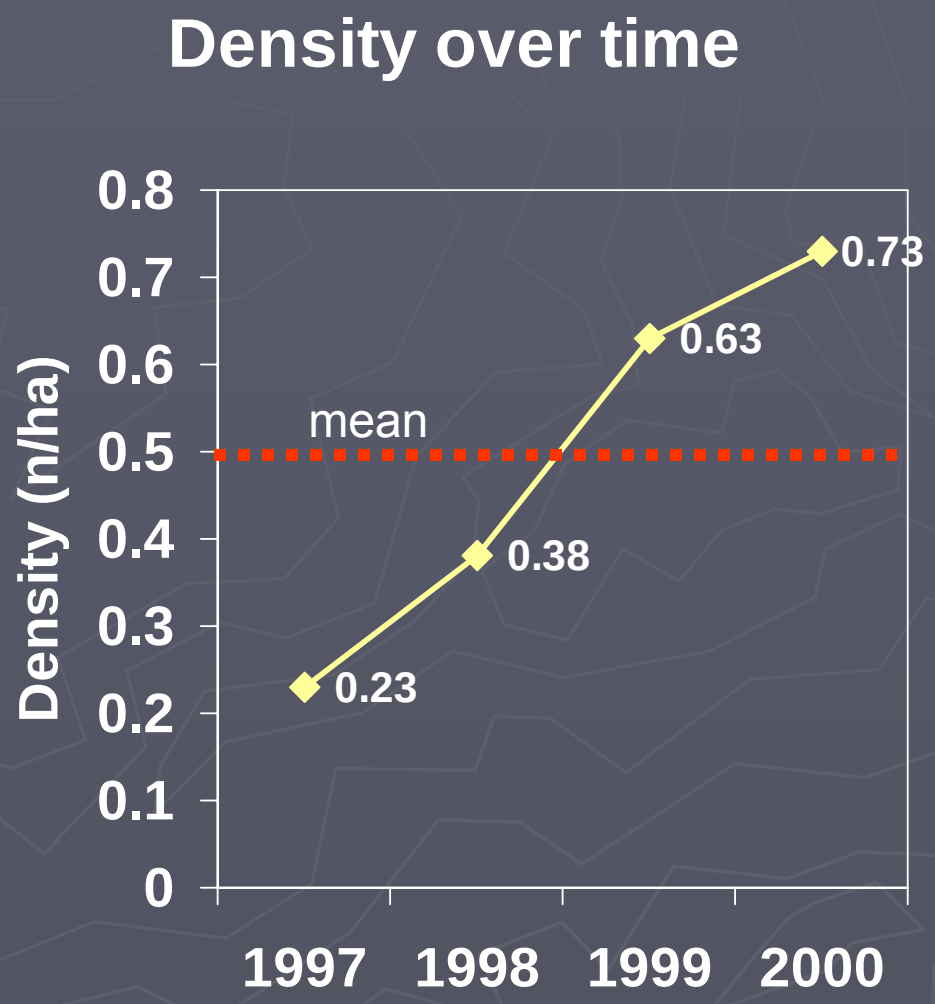
Bushy-tailed woodrats in the Swauk

Density changes over time....

Range: 0.23 – 0.73 woodrats / ha.

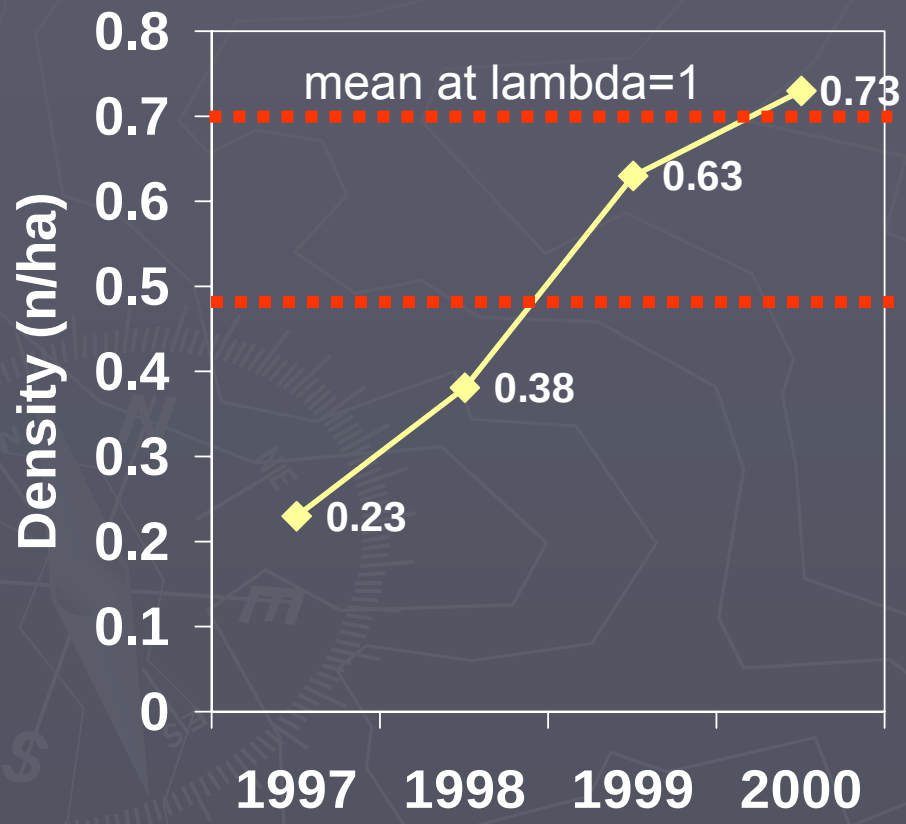
Increased each year, $\lambda \cong 1.8$ across all cover types.

Annual survival ~0.14 / yr

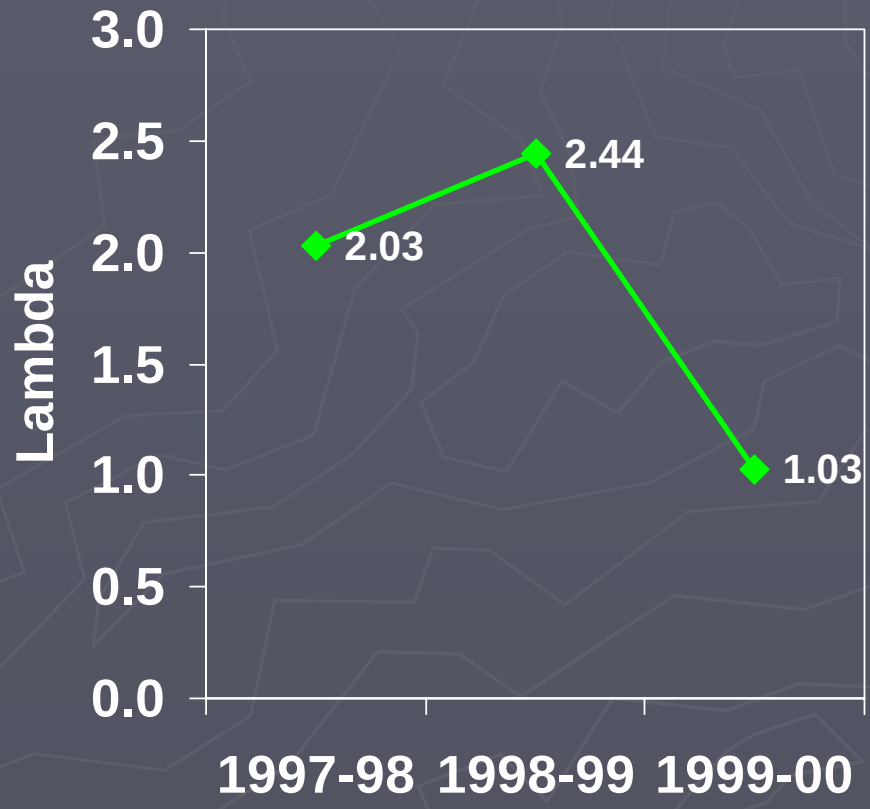


Demography

Density over time



Rate of increase

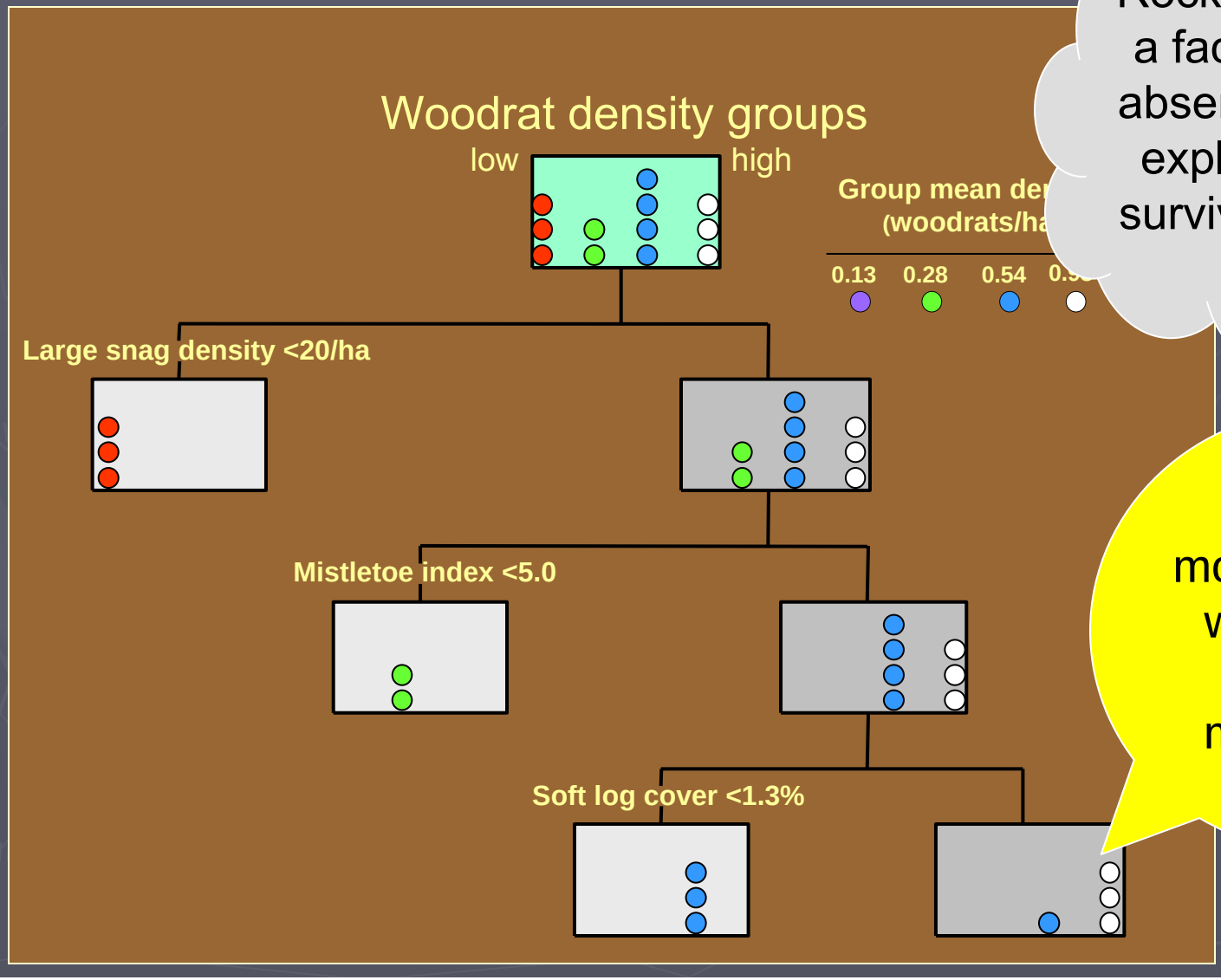


Density east vs. west

More abundant in eastern Cascades than western OR & WA (review by Carey et al.1999).

- All stands & 90% of sessions...vs... westside 42% sessions, local extinctions, & none in some stands.
- Our mean 0.42 woodrats/ha matched only by Umpqua sites.
- Our mean 4x higher than 6 of 7 sites in Carey et al.

Woodrat density increases with dead wood & mistletoe...



Rock was not a factor, but absence may explain low survival rates

Woodrats most abundant where more snags, mistletoe, & logs

Vegetation complex....